UNITED STATES PATENT AND TRADEMARK OFFICE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _07 July 2005_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-19_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-19_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _07 July 2005_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _2/20/2007, 7/7/2005 and 3/27/2008_.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   **Claims 1 and 13** are rejected under 35 U.S.C. 102(b) as being anticipated by

U.S. Patent No. 6,628,595 B1 to *Sasa et al.*

As to **claim 1**, *Sasa* discloses an optical recording method comprising the

steps of: reading recommended write strategy parameters from an optical

recording medium on which the recommended write strategy parameters have

been recorded (Fig. 11, column 7, lines 9-22); determining a write strategy to be

used in recording, based on the recommended write strategy parameters that

were read and characteristics of the optical system of the optical pickup of the

optical recording device used in recording (Fig. 11, column 7, lines 23-30); and

writing to the optical recording medium by use of the optical recording device,

using the write strategy thus determined (Fig. 11, column 7, lines 44-61).

As to **claim 13**, *Sasa* discloses an optical recording device with an optical

pickup having an optical system for recording and reproducing, comprising: a

reading means for reading recommended write strategy parameters from an

optical recording medium on which the recommended write strategy parameters

have been recorded (Fig. 11, column 7, lines 9-22); a determining means for

determining a write strategy to be used in recording based on the recommended

write strategy parameters that were read and characteristics of the optical system

of the optical pickup (Fig. 11, column 7, lines 9-30); and a writing means for

writing to the optical recording medium, using the write strategy thus determined

(Fig. 11, column 7, lines 44-61).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   **Claims 2, 10, and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable

over U.S. Patent No. 6,628,595 B1 to *Sasa et al.* in view of U.S. Patent No. 6,771,579

B2 to *Suzuki*.

As to **claim 2**, *Sasa* discloses the optical recording method, wherein: the

write strategy is a multiple-pulse type of write strategy (Fig. 10, column 3, lines 8-

29).

Sasa is deficient to disclosing the step of determining determines a leading pulse width of the write strategy for recording each mark, based on a ratio of a recommended leading pulse width parameter of the write strategy for recording each mark included in the recommended write strategy parameters with respect to the square of the recommended leading pulse width parameter of the write strategy for recording the shortest mark included in the recommended write strategy parameters.

However, *Suzuki* discloses the step of determining determines a leading pulse width of the write strategy for recording each mark, based on a ratio of a recommended leading pulse width parameter of the write strategy for recording each mark included in the recommended write strategy parameters with respect to the square of the recommended leading pulse width parameter of the write strategy for recording the shortest mark included in the recommended write strategy parameters (Column 4, lines 47-59).

Sasa and *Suzuki* are analogous art because they are from the same field of endeavor with respect to optical recording devices.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to create an optical recording method wherein a write strategy is a multiple-pulse type write strategy as well as have a recommended leading pulse width parameter of the write strategy for recording the shortest mark included in the recommended write strategy parameters as taught by *Suzuki*. The suggestion/motivation would have be that it is effective when

random mark length modulation recording of EFM+ modulation is carried out wherein the shortest mark length is defined (Suzuki, column 4, lines 47-59).

As to **claim 10**, *Sasa* is deficient to disclosing the optical recording method, wherein: the step of reading reads a recommended wavelength value from the optical recording medium; and the step of determining performs a determination based on the recommended wavelength value and the wavelength of a laser beam of the optical recording device used in recording.

However, *Suzuki* discloses the optical recording method, wherein: the step of reading reads a recommended wavelength value from the optical recording medium (Column 4, lines 47-59); and the step of determining performs a determination based on the recommended wavelength value and the wavelength of a laser beam of the optical recording device used in recording (Column 5, lines 19-32). In addition, the same motivation is used as the rejection for claim 2.

As to **claim 14**, *Sasa* discloses the optical recording device, wherein: the write strategy is a multi-pulse type of strategy (Fig. 10, column 3, lines 8-29);

Sasa is deficient in disclosing the optical recording device, wherein: the determining means calculates a leading pulse width of the write strategy for recording each mark, based on a ratio of a recommended leading pulse width parameter of the write strategy for recording each mark included in the recommended write strategy parameters with respect to the square of the recommended leading pulse width parameter of the write strategy for recording the shortest mark included in the recommended write strategy parameters.

However, *Suzuki* discloses the optical recording device, wherein: the determining means calculates a leading pulse width of the write strategy for recording each mark, based on a ratio of a recommended leading pulse width parameter of the write strategy for recording each mark included in the recommended write strategy parameters with respect to the square of the recommended leading pulse width parameter of the write strategy for recording the shortest mark included in the recommended write strategy parameters (Column 4, lines 47-59). In addition, the same motivation is used as the rejection for claim 2.

6.   **Claims 3-9 and 17-19** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,628,595 B1 to *Sasa et al.* in view of U.S. Patent No. 6,771,579 B2 to *Suzuki* in further view of U.S. Patent Pub. 2003/0151994 to *Tasaka et al.*

As to **claim 3**, *Sasa* as modified are deficient to disclosing the optical recording method, wherein said step of determining is carried out by a computation using a formula predetermined for the optical recording device used in recording.

However, *Tasaka* discloses the optical recording method, wherein said step of determining is carried out by a computation using a formula predetermined for the optical recording device used in recording (Fig. 8, paragraph 367).

Sasa, Suzuki and Tasaka are analogous art because they are from the
same field of endeavor with respect to optical recording devices.

At the time of the invention, it would have been obvious to a person of
ordinary skill in the art to determine a write strategy to be used in recording as
well as a computation using a formula predetermined for the optical recording
device as taught by Tasaka. The suggestion/motivation would be in order to
make corrections to the write strategy (Tasaka, paragraphs 176-183).

As to **claim 4**, Sasa discloses the optical recording method, wherein in
regard to the write strategy for recording each mark of the write strategy, the
leading pulse width that minimizes reproducing jitter is determined
experimentally, a formula is generated such that the experimentally determined
leading pulse width is the result of a calculation or a value approximating the
result of the calculation, and the generated formula is used in said step of
determining (Fig. 11, columns 9-10, lines 39-18).

As to **claim 5**, Sasa as modified are deficient to disclosing the optical
recording method, wherein the formula is expressed as $iTP = Ki-(iTP/ITP^2) + Ci$,
where iTP is the pulse width of the leading pulse in the write strategy to be used
in recording an i-th shortest mark, iTP is the pulse width of the leading pulse in
the recommended write strategy parameters for recording the i-th shortest mark,
ITP is the pulse width of the leading pulse in the recommended write strategy
parameters for recording the shortest mark, and Ki and Ci are constants for
determining the write strategy to be used to record the i-th shortest mark.

However, *Tasaka* discloses the optical recording method, wherein the formula is expressed as iTF = Ki-(iTP/ITP^2) + Ci, where iTF is the pulse width of the leading pulse in the write strategy to be used in recording an i-th shortest mark (Fig. 7, paragraphs 357-358), iTP is the pulse width of the leading pulse in the recommended write strategy parameters for recording the i-th shortest mark (Fig. 7, paragraphs 357-358), ITP is the pulse width of the leading pulse in the recommended write strategy parameters for recording the shortest mark (Fig. 7, paragraphs 357-358), and Ki and Ci are constants for determining the write strategy to be used to record the i-th shortest mark (Fig. 7, paragraph 359). In addition, the same motivation is used as the rejection for claim 3.

As to **claim 6**, *Sasa* discloses the optical recording method wherein: λ2 is the wavelength of a laser beam of the optical recording device used in recording (Fig. 11, column 9, lines 39-58), λ1 is a recommended wavelength (Fig. 11, column 9, lines 39-58).

Sasa is deficient to disclosing the optical recording method, wherein: the reading step reads the recommended wavelength from the optical recording medium; and the formula is expressed as iTP = Ki-(iTP/ITP^2) + Ci + Di x |λ2 - λ1|, where iTP is the pulse width of the leading pulse in the write strategy to be used in recording an i-th shortest mark, iTP is the pulse width of the leading pulse in the recommended write strategy parameters for recording the i-th shortest mark, 1TP is the pulse width of the leading pulse in the recommended write strategy parameters for recording the i-th shortest mark, , and Ki, Ci, and Di

are constants for determining the write strategy to use to record the i-th shortest mark.

However, *Tasaka* discloses the optical recording method, wherein: the reading step reads the recommended wavelength from the optical recording medium; and the formula is expressed as iTP = Ki-(iTP/ITP^2) + Ci + Di x Iλ2 - λ1I, where iTP is the pulse width of the leading pulse in the write strategy to be used in recording an i-th shortest mark (Fig. 7, paragraphs 357-358), iTP is the pulse width of the leading pulse in the recommended write strategy parameters for recording the i-th shortest mark (Fig. 7, paragraphs 357-358), 1TP is the pulse width of the leading pulse in the recommended write strategy parameters for recording the i-th shortest mark, , and Ki, Ci, and Di are constants for determining the write strategy to use to record the i-th shortest mark (Fig. 8, paragraph 367). In addition, the same motivation is used as the rejection for claim 3.

As to **claim 7**, *Sasa* discloses the optical recording method, wherein: λ2 is the wavelength of a laser beam of the optical recording device used in recording (Fig. 11, column 9, lines 39-58), λ1 is a recommended wavelength (Fig. 11, column 9, lines 39-58).

Sasa is deficient in disclosing the step of reading reads the recommended wavelength from the optical recording medium; and the formula is expressed as iTP = Ki-(iTP/ITP^2) + Ci, when the value of |λ2 - λ1| is equal to or less than a predetermined value, and iTP = Ki.(iTP/ITP^2) + Ci + Di x |λ2 - λ1|, when the

value of $|\lambda2 - \lambda1|$ is greater than the predetermined value, where iTP is the pulse width of the leading pulse in the write strategy to be used in recording an i-th shortest mark, iTP is the pulse width of the leading pulse in the recommended write strategy parameters for recording the i-th shortest mark, 1TP is the pulse width of the leading pulse in the recommended write strategy parameters for recording the i-th shortest mark, Ki, Ci, and Di are constants for determining the write strategy to be used to record the i-th shortest mark.

However, *Suzuki* discloses the formula is expressed as iTP = Ki-(iTP/ITP^2) + Ci, when the value of $|\lambda2 - \lambda1|$ is equal to or less than a predetermined value (Fig. 3 and 4, column 5, lines 15-32), and iTP = Ki.(iTP/ITP^2) + Ci + Di x $|\lambda2 - \lambda1|$, when the value of $|\lambda2 - \lambda1|$ is greater than the predetermined value (Fig. 3 and 4, column 5, lines 15-39).

However, *Tasaka* discloses iTP is the pulse width of the leading pulse in the write strategy to be used in recording an i-th shortest mark, iTP is the pulse width of the leading pulse in the recommended write strategy parameters for recording the i-th shortest mark (Fig. 7, paragraphs 357-358), 1TP is the pulse width of the leading pulse in the recommended write strategy parameters for recording the i-th shortest mark (Fig. 7, paragraphs 357-358), Ki, Ci, and Di are constants for determining the write strategy to be used to record the i-th shortest mark (Fig. 8, paragraph 367).

Sasa, *Suzuki*, and *Tasaka* are analogous art because they are from the same field of endeavor with respect to optical recording devices.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to create an optical recording device which has a formula for a recommended wavelength and for the pulse width as taught by *Tasaka*. The suggestion/motivation would be in order to determine the correct write strategy that should be used (Tasaka, column 17, lines 5-45).

As to **claim 8**, *Sasa* is deficient to disclosing the optical recording method, wherein Di is the same for every i.

However, *Tasaka* discloses the optical recording method, wherein Di is the same for every i (Fig. 8, paragraph 367). In addition, the same motivation is used as the rejection for claim 3.

As to **claim 9**, *Sasa* is deficient to disclosing the optical recording method, wherein the leading pulse width of the write strategy used in recording a fourth shortest mark is also used in all the write strategies from the write strategy used in recording a fifth shortest mark to the write strategy used in recording a longest mark.

However, *Tasaka* discloses the optical recording method, wherein the leading pulse width of the write strategy used in recording a fourth shortest mark is also used in all the write strategies from the write strategy used in recording a fifth shortest mark to the write strategy used in recording a longest mark (Fig. 7, paragraph 361). In addition, the same motivation is used as the rejection for claim 3.

As to **claim 17**, *Sasa* is deficient in disclosing the optical recording

method, wherein Di is the same for every i.

However, *Tasaka* discloses the optical recording method, wherein Di is

the same for every i (Fig. 8, paragraph 367). In addition, the same motivation is

used as the rejection for claim 3.

As to **claim 18**, *Sasa* is deficient in disclosing the optical recording

method, wherein the leading pulse width of the write strategy used in recording a

fourth shortest mark is also used in all the write strategies from the write strategy

used in recording a fifth shortest mark to the write strategy used in recording a

longest mark.

However, *Tasaka* discloses the optical recording method, wherein the

leading pulse width of the write strategy used in recording a fourth shortest mark

is also used in all the write strategies from the write strategy used in recording a

fifth shortest mark to the write strategy used in recording a longest mark (Fig. 7,

paragraph 361). In addition, the same motivation is used as the rejection for

claim 3.

As to **claim 19**, *Sasa* is deficient in disclosing the optical recording

method, wherein the leading pulse width of the write strategy used in recording a

fourth shortest mark is also used in all the write strategies from the write strategy

used in recording a fifth shortest mark to the write strategy used in recording a

longest mark.

However, *Tasaka* discloses the optical recording method, wherein the

leading pulse width of the write strategy used in recording a fourth shortest mark

is also used in all the write strategies from the write strategy used in recording a

fifth shortest mark to the write strategy used in recording a longest mark (Fig. 7,

paragraph 361). In addition, the same motivation is used as the rejection for

claim 3.

7.   **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 6,628,595 B1 to *Sasa et al.* in view of WO2004/027764 to *Ogawa* (see

translation in the U.S. Patent No. 7,154,833 B2).

As to **claim 11**, *Sasa* is deficient in disclosing the optical recording

method, wherein: the step of recording also reads a recommended asymmetry

value; the method further comprises a step of calculating an asymmetry value for

use in recording based on the recommended asymmetry value and the numerical

aperture of the objective lens of the optical recording device used in recording;

and the step of writing performs writing by use of the calculated asymmetry

value.

However, *Ogawa* discloses the optical recording method, wherein: the

step of recording also reads a recommended asymmetry value (Fig. 5, column

11, lines 40-52); the method further comprises a step of calculating an

asymmetry value for use in recording based on the recommended asymmetry

value and the numerical aperture of the objective lens of the optical recording

device used in recording (Fig. 3, column 8, lines 41-60); and the step of writing

performs writing by use of the calculated asymmetry value (Fig. 3, column 8,

lines 41-60).

Sasa and Ogawa are analogous art because they are from the same field

of endeavor with respect to optical recording.

At the time of the invention, it would have been obvious to a person of

ordinary skill in the art to create an optical recording method with a

recommended write strategy and have a step of recording also reads the

recommended asymmetry value as taught by Ogawa. The suggestion/motivation

would have been in order to determine the recording power (Fig. 5, column 11,

lines 41-52).

8.   **Claim 12** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 6,628,595 B1 to Sasa et al. in view of WO2004/027764 to Ogawa1 (see

translation in the U.S. Patent No. 7,154,833 B2) in further view of U.S. Patent No.

7,158,460 B2 to Ogawa2.

As to **claim 12**, Sasa as modified are deficient in disclosing the optical

recording method, wherein: if the recommended asymmetry value recorded on

the optical recording medium is $\beta1$, the numerical aperture of the objective lens

used for determining the recommended value is NA1, and the numerical aperture

of the objective lens of the optical recording device used in recording is NA2,

then the asymmetry value $\beta2$ used in recording is calculated by the formula $\beta2 =$

$\beta1 + E \times (NA2 - NA1)$.

However, *Ogawa 2* discloses the optical recording method, wherein: if the

recommended asymmetry value recorded on the optical recording medium is β1

(Fig. 3A, column 13, lines 25-38), the numerical aperture of the objective lens

used for determining the recommended value is NA1 (Fig. 32, column 31, lines

24-55), and the numerical aperture of the objective lens of the optical recording

device used in recording is NA2, then the asymmetry value β2 used in recording

is calculated by the formula β2 = β1 + E x (NA2 - NA1) (Fig. 7, column 15, lines

29-64).

Sasa, Ogawa1 and *Ogawa 2* are analogous art because they are from the

same field of endeavor with respect to optical recording devices.

At the time of the invention, it would have been obvious to a person of

ordinary skill in the art to create an optical recording method where the

recommended write strategy is read and the recommended asymmetry value is

recorded on the optical medium as taught by *Ogawa2*. The

suggestion/motivation would have been in order to control jitter (Ogawa, fig. 3A,

column 13, lines 49-56).

9.   **Claim 15 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable

over U.S. Patent No. 6,628,595 B1 to *Sasa et al.* in view of U.S. Patent Pub.

2003/0151994 A1 to *Tasaka et al.*

As to **claim 15**, *Sasa* is deficient in disclosing the optical recording device,

wherein the determining means carries out a computation using a formula

predetermined for the optical recording device used in recording.

However, *Tasaka* discloses the optical recording device, wherein the determining means carries out a computation using a formula predetermined for the optical recording device used in recording (Fig. 8, paragraph 367). In addition, the same motivation is used as the rejection for claim 3.

As to **claim 16**, *Sasa* discloses the optical recording device wherein, in regard to the write strategy for recording each mark of the write strategy, the leading pulse width that minimizes reproducing jitter is determined experimentally, a formula is generated such that the experimentally determined leading pulse width is the result of a calculation or a value approximating the result of the calculation, and the determining means uses the formula to carry out the calculation (Column 9-10, lines 39-18).

Conclusion

10.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANEETA PATANKAR whose telephone number is (571)272-9773. The examiner can normally be reached on Monday-Friday 7:30am-5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, LunYi Lao can be reached on (571)272-7671. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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